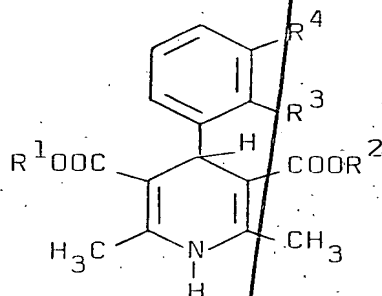


Sub B1

Claims

1. A compound of the formula I



(I)

wherein R^1 is selected from the group consisting of $-CH_3$, $-C_2H_5$, $-CH_2CH_2OCH_3$, ~~and~~ $-CH_2CH_2OC_2H_5$, and ~~$(CH_3CH_2O)_2CH$~~ R^2 is selected from the group consisting of $-CH_2CH_3$, $-CH(CH_3)_2$, $-C(CH_3)_3$, ~~$CH(CH_3)C_2H_5$~~ $-CH_2CH_2OCH(CH_3)_2$, $-CH(CH_3)CH_2OCH_3$, $-C(CH_3)_2CH_2OCH_3$, $-CH_2C\equiv CH$, and $-CH_2C(CH_3)=CH_2$, whereby R^1 and R^2 are not the same R^3 is selected from the group consisting of chloro and methoxy, and R^4 is selected from the group consisting of chloro, methyl and methoxy.

2. A compound of claim 1, wherein R^1 is selected from the group consisting of $-CH_3$, $-CH_2CH_2OCH_3$, ~~and~~ $-CH_2CH_2OC_2H_5$, and ~~$(CH_3CH_2O)_2CH$~~ R^2 is selected from the group consisting of $-C_2H_5$, $-CH(CH_3)_2$, $-C(CH_3)_3$, ~~$CH(CH_3)C_2H_5$~~ $-CH_2CH_2OCH(CH_3)_2$, $-CH(CH_3)CH_2OCH_3$, and $-C(CH_3)_2CH_2OCH_3$, R^3 is selected from the group consisting of chloro and methoxy, and R^4 is selected from the group consisting of chloro, methyl, and methoxy.

3. A compound of claim 1, wherein R^1 is $-CH_3$, $-C_2H_5$, $-CH_2CH_2OCH_3$, ~~and~~ $-CH_2CH_2OC_2H_5$, and ~~$(CH_3CH_2O)_2CH$~~ R^2 is selected from the group consisting of $-CH_2C\equiv CH$, $-CH_2C(CH_3)=CH_2$, R^3 is selected from the group consisting of chloro and methoxy, and R^4 is selected from the group consisting of chloro, methyl, and methoxy.

4. A compound according to claims 1-3, wherein

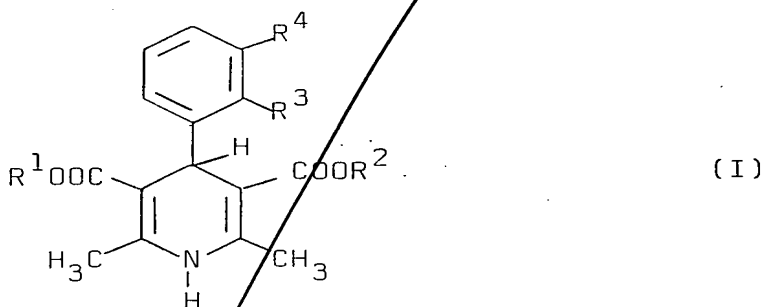
- 1) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-methylester-5-ethylester;
- 2) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-ethylester-5-(2-methoxyethyl-ester);
- 3) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-methylester-5-isopropylester;
- 4) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-methylester-5-(1-methylpropyl-ester);
- 5) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-methyl-5-tert.butylester;
- 6) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-methylester-5-(2-methoxy-1-methylethylester);
- 7) 2,6-dimethyl-4-(2-methoxy-3-chlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-methylester-5-ethyl-ester;
- 8) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-(2-methoxyethyl)ester-5-isopropylester;
- 9) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-(2-ethoxyethyl)ester-5-ethyl-ester;
- 10) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-3,5-dicarboxylic acid-3-[2-(2-methoxyethoxy)ethyl]-ester-5-isopropylester;

- 11) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-
-3,5-dicarboxylic acid-3-methylester-5-(2-isopropoxy-
ethyl)ester;
- 12) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-
-3,5-dicarboxylic acid-3-methylester-5-(2-methoxy-1,1-
-dimethylethyl)ester;
- 13) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-
-3,5-dicarboxylic acid-3-methylester-5-(2-ethoxyethyl)-
ester;
- 14) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-
-3,5-dicarboxylic acid-3-(2-methoxy)ethylester-5-propar-
gyl ester;
- 15) 2,6-dimethyl-4-(2,3-dichlorophenyl)-1,4-dihydropyridine-
-3,5-dicarboxylic acid-3-methylester-5-(2-methyl)allyl-
ester;
- 16) 2,6-dimethyl-4-(2-methoxy-3-chlorophenyl)-1,4-dihydro-
pyridine-3,5-dicarboxylic acid-3-methylester-5-isopropyl-
ester;
- 17) 2,6-dimethyl-4-(2-methoxy-3-chlorophenyl)-1,4-dihydro-
pyridine-3,5-dicarboxylic acid-3-(2-methoxyethyl)ester-
-5-ethylester.
- 18) 2,6-dimethyl-4-(2-methoxy-3-chlorophenyl)-1,4-dihydro-
pyridine-3,5-dicarboxylic acid-3-(2-methoxyethyl)ester-
-5-isopropylester;
- 19) 2,6-dimethyl-4-(2-chloro-3-methoxyphenyl)-1,4-dihydro-
pyridine-3,5-dicarboxylic acid-3-methylester-5-(1-methyl)-
n-propylester;
- 20) 2,6-dimethyl-4-(2-chloro-3-methoxyphenyl)-1,4-dihydro-
pyridine-3,5-dicarboxylic acid-3-ethylester-5-isopropyl-
ester;

21) 2,6-dimethyl-4-(2-chloro-3-methylphenyl)-1,4-dihydro-pyridine-3,5-dicarboxylic acid-3-methylester-5-ethyl-ester; or

5 22) 2,6-dimethyl-4-(2-chloro-3-methoxyphenyl)-1,4-dihydro-pyridine-3,5-dicarboxylic acid-3-methylester-5-ethyl-ester; is selected.

Sub B2
10 5. A method for treating arterial hypertension by relaxing vascular smooth muscle in mammals, including man, by administering a therapeutically active amount of a compound of formula I



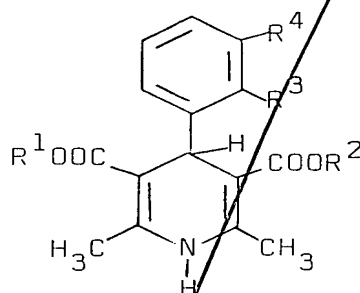
wherein R¹ is selected from the group consisting of -CH₃, -C₂H₅, -CH₂CH₂OCH₃, -CH₂CH₂OC₂H₅, and -(CH₂CH₂O)₂CH₃, R² is selected from the group consisting of -CH₂CH₃, -CH(CH₃)₂, -C(CH₃)₃, -CH(CH₃)C₂H₅, -CH₂CH₂OCH(CH₃)₂, -CH(CH₃)CH₂OCH₃, -C(CH₃)₂CH₂OCH₃, -CH₂C≡CH, and -CH₂C(CH₃)=CH₂, whereby R¹ and R² are not the same, R³ is selected from the group consisting of chloro and methoxy, and R⁴ is selected from the group consisting of chloro, methyl, and methoxy.

30 5. A method according to claim 5, wherein a compound of formula I is administered, wherein R¹ is selected from the group consisting of -CH₃, -CH₂CH₂OCH₃, -CH₂CH₂OC₂H₅, and ~~(CH₂CH₂O)₂CH₃~~ and R² is selected from the group consisting of -C₂H₅, -CH(CH₃)₂, -C(CH₃)₃, ~~CH(CH₃)C₂H₅~~, ~~CH₂CH₂OCH(CH₃)₂~~, ~~CH(CH₃)CH₂OCH₃~~, and ~~C(CH₃)₂CH₂OCH₃~~, R³ is selected from the group consisting of chloro and methoxy, and R⁴ is selected from the group consisting of chloro, methyl, and methoxy.

35

6/ 7. A method according to claim 5, wherein a compound of formula I is administered, wherein R^1 is $-CH_3$, $-C_2H_5$, $-CH_2CH_2OCH_3$, $-CH_2CH_2OC_2H_5$, and $(CH_2CH_2O)_2CH$, R^2 is selected from the group consisting of $-CH_2C\equiv CH$, $-CH_2C(CH_3)=CH_2$, R^3 is selected from the group consisting of chloro and methoxy, and R^4 is selected from the group consisting of chloro, methyl, and methoxy.

8. Pharmaceutical preparation, which comprises as an active ingredient a therapeutically effective dose of at least one antihypertensive compound having vascular smooth muscle relaxing properties which compound has the formula I



(I)

wherein R^1 is selected from the group consisting of $-CH_3$, $-C_2H_5$, $-CH_2CH_2OCH_3$, $-CH_2CH_2OC_2H_5$, and $(CH_2CH_2O)_2CH$, R^2 is selected from the group consisting of $-CH_2CH_3$, $-CH(CH_3)_2$, $-C(CH_3)_3$, $-CH(CH_3)C_2H_5$, $-CH_2CH_2OCH(CH_3)_2$, $-CH(CH_3)CH_2OCH_3$, $-C(CH_3)_2CH_2OCH_3$, $-CH_2C\equiv CH$, and $-CH_2C(CH_3)=CH_2$, whereby R^1 and R^2 are not the same, R^3 is selected from the group consisting of chloro and methoxy, and R^4 is selected from the group consisting of chloro, methyl, and methoxy, in association with a pharmaceutically acceptable carrier.

9. A pharmaceutical preparation according to claim 8, wherein the active ingredient is a compound of formula I, wherein R^1 is selected from the group consisting of $-CH_3$, $-CH_2CH_2OCH_3$, $-CH_2CH_2OC_2H_5$, and $(CH_2CH_2O)_2CH$, and R^2 is selected from the group consisting of $-C_2H_5$, $-CH(CH_3)_2$, $-C(CH_3)_3$, $-CH(CH_3)C_2H_5$, $-CH_2CH_2OCH(CH_3)_2$, $-CH(CH_3)CH_2OCH_3$, and $-C(CH_3)_2CH_2OCH_3$, R^3 is selected from the group consisting of

chloro ~~and methoxy~~, and R^4 is selected from the group consisting of chloro ^{and} methyl, ~~and methoxy~~.

⁹
~~10.~~ A pharmaceutical preparation according to claim ~~8.~~ ^{7.}

5 wherein the active ingredient is a compound of formula I, wherein R^1 is $-CH_3$, $-C_2H_5$, $-CH_2CH_2OCH_3$, ^{and} $-CH_2CH_2OC_2H_5$, ~~and~~

~~$-(CH_2CH_2O)_2CH_2$~~ R^2 is selected from the group consisting of

~~$-CH_2C(CH_3)=CH_2$~~ R^3 is ~~selected from the group~~

~~consisting of chloro, and methoxy~~ and R^4 is selected from

10 the group consisting of chloro, ^{and} methyl, ~~and methoxy~~.

¹⁰
~~11.~~ A pharmaceutical preparation according to claim ~~8.~~ ^{7.}

wherein the substituted 2,6-dimethyl-4-phenyl-1,4-dihydropyridine-3,5-dicarboxylic acid-diester compound comprises

15 0.1 to 99 % by weight of the preparation.

Add
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